Q-FLOOD

BY WATERMATICA

PREDICT. SIMULATE. PREPARE.

Flood Warning & Simulation as a Service

Physics-based modelling. AI-driven insights. Quantum-ready architecture.

Understand flood risk before the water arrives.

ENGINEERED BEYOND LIMITS



One service.
Four connected decisions.

Early Warning

Assess developing conditions and prepare warning proposals for authorised teams.

Simulation & Planning

Explore historical events and what-if scenarios for catchments, cities and vulnerable sites.

Emergency Response

Review potentially affected roads, facilities and communities to support coordination.

Insurance & Risk

Explore exposure and potential losses where suitable asset and vulnerability data are available.

See where water may go. Understand what it could affect.

Explore flood behaviour through interactive maps and location-based analysis.



Extent	Where water may spread
Depth	How deep it may become
Velocity	How quickly it may move
Arrival & Duration	When it may arrive and how long it may stay
Hazard & Probability	Potential danger and uncertainty across scenarios

Bring flood outputs together with roads, facilities and other exposed assets.

From environmental data to decision support.

01

Connect the data

Weather forecasts, rainfall, river observations, terrain and available sensors.

02

Build the digital twin

Represent the catchment, river network, soil conditions and relevant assets.

03

Model the water

Combine rainfall–runoff, river and two-dimensional flood modelling with scenario analysis.

04

Check and deliver

Apply plausibility checks, then release maps, run records and structured warning drafts.

GeoTIFF GeoJSON CSV CAP 1.2

Public warning approval and publication remain with the responsible authority.

Physics constrains. AI learns. Quantum explores.

PHYSICS

The modelling foundation

Hydrological and hydraulic models describe how rainfall becomes runoff and how water moves.

AI

Supporting intelligence

Learning methods support forecast correction and sensor-data assessment alongside the physical models.

QUANTUM

An evaluated research layer

Experimental methods explore probability estimation, learning and response optimisation against classical benchmarks.

Operational warnings do not depend on quantum hardware. Quantum methods enter operational use only after validation.



Evaluate against real flood events.

Q-Flood's Malaysia research includes historical simulations of the Kelantan 2014 and Klang Valley 2021 floods, assessed against available observations.

Historical events	Replay known floods to examine model behaviour.
Local evidence	Review results against rainfall, river records and satellite observations.
Clear evaluation	Agree the metrics, forecast horizons and acceptance criteria for each pilot.

Rainfall quality, terrain detail and monitoring coverage influence the usefulness of every forecast.

Start with your area. Evaluate with your data.

For public authorities, municipalities, infrastructure operators and risk professionals.

DEFINE

Choose a catchment, district or critical site and the decisions to support.

CONFIGURE

Agree data feeds, model resolution, forecast horizons and required outputs.

VALIDATE

Compare results with local observations before expanding the service.

Cloud, on-premises and restricted-network options are scoped around your data policies and operational requirements.

Discuss a Pilot Project

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Understand flood risk before the water arrives.

Let’s explore a demonstration or a pilot for your area.

Discuss Your Pilot Project

watermatica.com/q-flood.html

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